**UNITED STATES DEPARTMENT OF AGRICULTURE**
**ANIMAL AND PLANT HEALTH INSPECTION SERVICE**
**WILDLIFE SERVICES**

# FINDING OF NO SIGNIFICANT IMPACT AND DECISION

An Integrated Wildlife Damage Management Approach
for the Management of White-tailed Deer Damage
In the State of Michigan as Conducted by USDA Wildlife Services

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS), Wildlife Services (WS) program responds to requests for assistance from individuals, organizations and other government agencies experiencing damage caused by wildlife in the state of Michigan. Ordinarily, according to APHIS procedures implementing the National Environmental Policy Act (NEPA), individual wildlife damage management actions may be categorically excluded (7 CFR 372.5(c), 60 Fed. Reg. 6000-6003, 1995). The WS program has completed an environmental assessment (EA) that analyses the potential environmental effects of a proposal to continue a cooperative, integrated wildlife damage management program for the purpose of reducing white-tailed deer (Odocoileus virginianus) damage to agriculture, property, natural resources, and human health and safety in the state of Michigan. The EA analyzed the proposed action and other alternatives with respect to a number of issues affecting the human environment. Comments from the public involvement process were reviewed for substantial issues and alternatives which were considered in developing this decision. The EA is tiered to the programmatic Environmental Impact Statement (EIS) for the Wildlife Services Program[1] (USDA 1997).

WS is the Federal program authorized by law to reduce damage caused by wildlife (Animal Damage Control Act of 1931, as amended (46 Stat. 1486; 7 U.S.C. 426-426c) and the Rural Development, Agriculture, and Related Agencies Appropriations Act of 1988, Public Law 100-102, Dec. 27, 1987. Stat. 1329-1331 (7 U.S.C. 426c). Wildlife damage management is the alleviation of damage or other problems caused by or related to the presence of wildlife, and is recognized as an integral part of wildlife management (The Wildlife Society 1992). WS uses an Integrated Wildlife Damage Management (IWDM) approach, commonly known as Integrated Pest Management (WS Directive 2.105) in which a combination of methods may be used or recommended to reduce damage. WS wildlife damage management is but one means of reducing damage and is used as part of the WS Decision Model (Slate et al. 1992, USDA 1997, WS Directive 2.201). All WS wildlife damage management activities are in compliance with relevant laws, regulations, policies, orders and procedures, including the Endangered Species Act of 1973.

[1] USDA (U.S. Department of Agriculture), Animal and Plant Health Inspection Service (APHIS), Animal Damage Control (ADC). 1997 (revised). Animal Damage Control Program, Final Environmental Impact Statement. Anim. Plant Health Inspection Serv., Anim. Damage Control. Hyattsville, MD. Volume 1, 2 & 3.

Based on the analysis in the EA, I have determined that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of the proposed action.

**Monitoring**
The Michigan WS program will review its impacts on white-tailed deer and other species addressed in the EA each year to ensure that WS program activities do not impact the viability of target and non-target wildlife species. In addition, the EA will be reviewed each year to ensure that it and the analysis are sufficient.

**Public Involvement**
The pre-decisional EA was prepared and released to the public for a 30-day comment period by a legal notice in the *Detroit Free Press* and *The Detroit News* on June 13, 2002. The pre-decisional EA was also mailed directly to agencies, organizations, and individuals with probable interest in the proposed program. Five comment letters were received by WS within the comment period. All comments were analyzed to identify substantial new issues, alternatives, or to redirect the program. Wildlife Services responses to specific comments are included in Appendix A of this Decision and FONSI. All letters and comments are maintained at the Michigan state office at 2803 Jolly Road, Suite 160, Okemos, MI 48864.

**Affected Environment**
This EA evaluates white-tailed deer damage management to reduce damage to agriculture, property, natural resources, and human health and safety on private and public lands in Michigan.

**Objectives**
The objectives of the proposed action are to:

- Respond to 100% of the requests for assistance with the appropriate action (technical assistance or direct control) as determined by Michigan WS personnel, applying the ADC Decision Model (Slate et al. 1992).

- Hold the lethal take of nontarget animals by WS personnel during damage management to less than 5% of the total animals taken.

**Major Issues**
Several major issues were contained within scope of this EA. These issues were consolidated into the following 6 primary issues to be considered in detail:

- Effects on White-tailed Deer Populations
- Effects on Plants and other Wildlife Species, including Threatened and Endangered Species
- Effects on Human Health and Safety
- Humaneness of Methods to be Used
- Effects on Aesthetic Values
- Effects on Regulated White-tailed Deer Hunting

**Alternatives**
Four potential alternatives were developed to address the issues identified above. A detailed discussion of the anticipated effects of the alternatives on the issues are contained in the EA. The following summary provides a brief description of each alternative and its anticipated impacts.

Alternatives analyzed in detail

**Alternative 1. Integrated Deer Damage Management Program by WS (Proposed Action).**
Under this alternative, Wildlife Services would administer an Integrated Wildlife Damage Management (IWDM) approach to alleviate white-tailed deer damage to agriculture, property, natural resources, and human health and safety. An IWDM approach would be implemented on all private and public lands of Michigan where a need exists, a request is received, and funding is available. An IWDM strategy would be recommended and used, encompassing the use of practical and effective methods of preventing or reducing damage while minimizing harmful effects of damage management measures on humans, white-tailed deer, other species, and the environment. Under this action, WS would provide technical assistance and operational damage management, including non-lethal and lethal management methods by applying the WS Decision Model (Slate et al. 1992). When appropriate, habitat modifications, harassment, repellents, and physical exclusion could be recommended and utilized to reduce deer damage. In other situations, deer would be removed as humanely as possible by sharpshooting and live capture followed by euthanasia under permits issued by the Michigan Department of Natural Resources (MDNR). In determining the damage management strategy, preference would be given to practical and effective non-lethal methods. However, non-lethal methods may not always be applied as a first response to each damage problem. The most appropriate response could often be a combination of non-lethal and lethal methods, or there could be instances where application of lethal methods alone would be the most appropriate strategy. WS deer damage management would be conducted in the State, when requested, on private or public property after an *Agreement for Control* or other comparable document has been completed. All WS deer damage management would be consistent with other uses of the area and would comply with appropriate federal, state and local laws.

**Alternative 2. Non-lethal Deer Damage Management only by WS.**
This alternative would require WS to use and recommend non-lethal methods only to resolve all deer damage problems. Requests for information regarding lethal management approaches would be referred to MDNR, local animal control agencies, or private businesses or organizations. Persons experiencing deer damage could still resort to lethal methods or other methods not recommended by WS, use contractual services of private businesses that were available to them, or take no action. Appendix B of the EA describes a number of non-lethal methods available for recommendation and use by WS under this alternative.

**Alternative 3. Lethal Deer Damage Management only by WS.**
Under this alternative, WS would provide only lethal direct control services and technical assistance. Requests for information regarding non-lethal management approaches would be referred to MDNR, local animal control agencies, or private businesses or organizations.

Individuals might choose to implement WS lethal recommendations, implement non-lethal methods or other methods not recommended by WS, contract for WS lethal direct control services, use contractual services of private businesses, or take no action. Appendix B of the EA describes lethal methods available for recommendation and use by WS under this alternative.

**Alternative 4. No Deer Damage Management by WS.**
This alternative would eliminate WS involvement in all deer damage management activities. WS would not provide direct operational or technical assistance and requesters of WS services would have to conduct their own deer damage management without WS input.

Alternatives considered but not in detail with rationale

**Live Trap and Relocation.**
Under this alternative WS would capture deer alive using cage-type live traps or capture drugs administrated by dart gun and then relocate the captured deer to another area. Numerous studies have shown that live-capture and relocation of deer is relatively expensive, time-consuming and inefficient (Ishmael and Rongstad 1984, O'Bryan and McCullough 1985, Diehl 1988, Jones and Witham 1990, Ishmael et al. 1995). Population reduction achieved through capture and relocation is labor intensive and would be costly ($273-$2,876/deer) (O'Bryan and McCullough 1985, Bryant and Ishmael 1991). Additionally, relocation frequently results in high mortality rates for deer (Cromwell et. al. 1999, O'Bryan and McCullough 1985, Jones and Witham 1990, Ishmael et. al. 1995). Deer frequently experience physiological trauma during capture and transportation, (capture myopathy) and deer mortality after relocation, from a wide range of causes within the first year, has ranged from 25-89% (Jones and Witham 1990, Mayer et al. 1993). O'Bryan and McCullough (1985) found that only 15% of radio-collared black-tailed deer that were live-captured and relocated from Angel Island, California, survived for one year after relocation. Although relocated deer usually do not return to their location of capture, some do settle in familiar suburban habitats and create nuisance problems for those communities (Bryant and Ishmael 1991). High mortality rates of relocated deer, combined with the manner in which many of these animals die, make it difficult to justify relocation as a humane alternative to lethal removal methods (Bryant and Ishmael 1991). Chemical capture methods require specialized training and skill. A primary limitation of darting, the limited range at which deer can be effectively hit, is generally less than 40 yards. With modern scoped rifles, however, a skilled sharpshooter can hit the head or neck of a deer for a quick kill out to 200 yards and beyond. Thus, chemical capture is far less efficient, more labor intensive, and much more costly than lethal removal with rifles

Translocation of wildlife is also discouraged by WS policy (WS Directive 2.501) because of stress to the relocated animal, poor survival rates, potential for disease transfer and difficulties in adapting to new locations or habitats.

**Population Stabilization Through Birth Control.**
Deer would be sterilized or contraceptives administered to limit the ability of deer to produce offspring. At the present time, there is no practical, economical way to effectively stop reproduction in a free-ranging deer herd. Contraceptive measures potentially available for deer can be grouped into four categories: surgical sterilization, oral contraception, hormone

implantation, and immunocontraception (the use of contraceptive vaccines). Sterilization could be accomplished through surgical sterilization (vasectomy, castration, and tubal ligation), chemosterilization, and gene therapy. Contraception could be accomplished through hormone implantation (synthetic steroids such as progestins), immunocontraception (contraceptive vaccines), and oral contraception (progestin administered daily). These techniques would require that deer receive either single, multiple, or possibly daily treatment to successfully prevent conception.

Use and effectiveness of reproductive control as a wildlife population management tool is limited by population dynamic characteristics (longevity, age at onset of reproduction, population size and biological/cultural carrying capacity, etc.), habitat and environmental factors (isolation of target population, cover types and access to target individuals, etc.), socioeconomic and other factors. Population modeling indicates that reproductive control is more efficient than lethal control only for some rodent and small bird species with high reproductive rates and low survival rates (Dolbeer 1998). Additionally, the need to treat a sufficiently large number of target animals, multiple treatments, and population dynamics of free-ranging populations place considerable logistic and economic constraints on the adoption of reproduction control technologies as a wildlife management tool for some species. Research into reproductive control technologies, however, has been ongoing, and the approach will probably be considered in an increasing variety of wildlife management situations.

The use of this method would be subject to approval by Federal and State Agencies. This alternative was not considered in detail because:

- It would take a number of years of implementation before the deer population would decline and therefore, damage would continue at the present unacceptable levels for a number of years.

- Surgical sterilization would have to be conducted by licensed veterinarians, and would therefore be extremely expensive.

- It is virtually impossible and prohibitively expensive to effectively live trap, chemically capture, or remotely treat the number of deer necessary to effect an eventual decline in the population.

- State and Federal regulatory authorities have not approved any chemical or biological agents for deer contraception for use.

**Finding of No Significant Impact.**
The analysis in the EA indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of implementing the proposed action and that these actions do not constitute a major Federal action. I agree with this conclusion and therefore find that an Environmental Impact Statement need not be prepared. This determination is based on the following factors:

1) White-tailed deer damage management as conducted by WS in the State of Michigan is not regional or national in scope.

2) Based on the analysis documented in the EA, the impacts of the proposed action will not significantly affect public health or safety. Risks to the public from WS methods were determined to be low in a formal risk assessment (USDA 1997, Appendix P).

3) The proposed action will not have a significant impact on unique characteristics such as park lands, wetlands, wild and scenic areas, or ecologically critical areas. Built-in mitigation measures that are part of WS's standard operating procedures and adherence to laws and regulations will further ensure that WS activities do not harm the environment.

4) The effects on the quality of the human environment are not highly controversial. Although certain individuals may be opposed to managing white-tailed deer, this action is not controversial in relation to size, nature, or effects.

5) Mitigation measures adopted and/or described as part of the proposed action minimize risks to the public, prevent adverse effects on the human environment, and reduce uncertainty and risks. Effects of methods and activities, as proposed, are known and do not involve uncertain or unique risks.

6) The proposed action does not establish a precedent for future actions, including future white-tailed deer damage management that may be implemented or planned within the State.

7) The number of white-tailed deer that will be taken by WS annually is very small in comparison to regional and statewide populations. Adverse effects on other wildlife species and on wildlife habitat would be minimal. The EA discussed cumulative effects of WS on target and non-target species populations and concluded that such impacts were not significant for this or other anticipated actions to be implemented or planned within the State.

8) This action will not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places and will not cause loss or destruction of significant scientific, cultural, or historic resources. WS wildlife damage management would not disturb soils or any structures and, therefore, would not be considered a "Federal undertaking" as defined by the National Historic Preservation Act.

9) WS determined that the proposed project would not adversely affect Federally or State listed threatened or endangered species in Michigan. The US Fish and Wildlife Service and MDNR have concuured with this determination.

10) The proposed action is consistent with local, state, and Federal laws that provide for or restrict WS wildlife damage management. Therefore, WS concludes that this project is in compliance with Federal, state and local laws for environmental protection.

**Decision and Rational**

I have carefully reviewed the Environmental Assessment (EA) prepared for this proposal and the input from the public involvement process. I believe that the issues identified in the EA are best addressed by selecting Alternative 1 (Integrated Deer Damage Management Program by Wildlife Services (Proposed Action)) and applying the associated mitigation measures discussed in Chapter 3 of the EA. Alternative 1 is selected because (1) it offers the greatest chance at maximizing effectiveness and benefits to resource owners and managers while minimizing cumulative impacts on the quality of the human environment that might result from the program's effect on target and non-target species populations; (2) it presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety; and, (3) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of these issues are considered. Therefore, it is my decision to implement the proposed action as described in the EA. Copies of the EA are available upon request from the Michigan WS State Office, 2803 Jolly Road, Suite 160, Okemos, MI 48864.

/s/ 09/09/02

Charles S. Brown Date
Acting Director, Eastern Region
USDA-APHIS-WS

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**Appendix A**
**Response to Comments to the Environmental Assessment**
**"An Integrated Wildlife Damage Management Approach**
**for the Management of White-tailed Deer Damage**
**In the State of Michigan as Conducted by USDA Wildlife Services"**

**Issue 1:** ***Inadequate acknowledgement and clarification of the authorities and roles of the Federal government (USDA) versus the State of Michigan in managing deer and deer damage.***

**Program Response 1:** Attempts have been made to clarify the role that WS serves versus the MDNR by adding language describing the responsibilities of each agency. In addition, text has been added to identify that this EA has been written to analyze WS's deer damage management program and its effect upon the environment. This text will hopefully help differentiate the wildlife damage management program as conducted by WS as separate from that of the MDNR.

**Issue 2:** ***Education component of Integrated Wildlife Damage Management (IWDM) could be emphasized more.***

**Program Response 2:** Whenever complaints of wildlife damage are received, every attempt is made to educate the individual on the different options available to alleviate the damage. Quite often this education involves why the damage is occurring, how to alleviate the damage, and methods to prevent the damage from reoccurring. Although not specifically stated within this EA, often complaints have been referred to us through the MDNR. The MDNR also makes attempts to educate the individual on why the damage is occurring and options available to them. Every effort will be made to maintain cooperative relationships with other State and Federal agencies to address wildlife damage management complaints as they arise.